

# THE BYZANTINE AGRICULTURAL TRADITION

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The following study is substantially the same as a paper delivered at the Symposium on "Byzantine Society," held at Dumbarton Oaks in May 1969.

The following paper is the product of a certain dissatisfaction with global comparisons often drawn between the histories of the Byzantine Empire and Catholic Western Europe. The career of the eastern state is seen as a descending curve. That of the West is traced upon an ascending curve, with the two intersecting during the eleventh century. At that point, Catholic Europe manifests new material and spiritual energy; Byzantium, in contrast, is riven by internal strife. Economically passive, it is burdened by the dead weight of tradition and by an overextended empire, too large to administer and protect.<sup>1</sup>

Underlying this dismal characterization of Byzantine society in the early or mid-eleventh century is a perfectly valid need; the need to account for the disasters that ensued: the failure of 1071, the tragedy of 1204, and the catastrophe of 1453. That the characteristics indicated are susceptible of documentation, no one can deny, any more than he can overlook the disasters for which they are partly accountable. Yet these pessimistic generalizations also reflect a partial view of Byzantine society, a view from the state down and from Constantinople out. Only supplementary studies focussed upon provinces or regions, rather than the capital and its inhabitants, can justify a pessimistic evaluation of Byzantine society in its totality. And far from providing the necessary justification, studies of such a nature may well transform our understanding of the Byzantine Empire as they have other historians' views about medieval Germany or the later Roman Empire.<sup>2</sup>

Unfortunately, regional studies of Byzantium, based upon linguistic evidence, place-names, and archaeology, are in their infancy; it is still necessary to use the traditional materials but to ask of them different questions. Thus the fol-

<sup>1</sup> Three provocative studies delineate the "pessimistic" point of view: P. Charanis, "The Byzantine Empire in the Eleventh Century," in K. M. Setton, ed., *A History of the Crusades*, II (Philadelphia, 1958), 177-220; R. H. Jenkins, *The Byzantine Empire on the Eve of the Crusades* (London, 1953); S. Vryonis, Jr., "Byzantium: The Social Basis of Decline in the Eleventh Century," *Greek, Roman, and Byzantine Studies*, 2 (1959), 157-75. A more optimistic view in J. Hussey, "The Byzantine Empire in the Eleventh Century," *Transactions of the Royal Historical Society*, 32 (1950), 71-85; new perspectives in N. Svoronos, "Société et organisation intérieure dans l'empire byzantin au XIe siècle: les principaux problèmes," in *Proceedings XIIIth Internat. Congr. Byz. Studies* (London, 1967), 373-96, with critique by H. Evert-Kappesowa, *ibid.*, 397-400. The viewpoint of western medievalists may be found in, e.g., É. Perroy et al., *Le Moyen Age, Histoire générale des civilisations*, III (Paris, 1955), 308-11, or R. S. Lopez, *The Birth of Europe* (New York, 1967), esp. 255. Comparisons made by the Islamicist C. Cahen, "L'évolution sociale du monde musulman face à celle du monde chrétien jusqu'au XIIe siècle," *Cahiers de civilisation médiévale*, 2 (1959), 37-51, raise the question of the "feudal direction" of the three societies; for a summary of the debate upon the value of the term when applied to Byzantium, see K. I. Watanabe, "Problèmes de la féodalité byzantine," *Hitotsubashi Journal of Arts and Sciences*, 5 (1965), 32ff; for a substantial study of the outcome of Byzantine-Western rivalry, see C. M. Brand, *Byzantium Confronts the West, 1180-1204* (Cambridge, Mass., 1968).

<sup>2</sup> Recent regional studies for the late Roman period are cited *passim* in my "The Age of Constantine: Change and Continuity in Administration and Economy," *Dumbarton Oaks Papers* (hereafter *DOP*), 21 (1967), 13-36; see also P. Brown, "The Later Roman Empire," *Economic History Review*, 20 (1967), 327-43, a brilliant review article. On medieval Germany, K. Bosl, "Anfänge und Ansatzpunkte deutscher Gesellschaftsentwicklung," in his *Frühformen der Gesellschaft im mittelalterlichen Europa* (Munich, 1964), 11-62, esp. materials cited on p. 15 in note 4.

lowing paper investigates the mutual impact of men and land in a fashion intentionally different from that of certain predecessors. It is little concerned with legal relations among the several social classes or categories. It is addressed, rather, to matters at once more and less tangible. Tools and techniques of agriculture constitute the more tangible; among the less tangible are attitudes and feelings ranging from the simple piety of Anatolian peasants, anxious to possess holiness, to the speculation of intellectuals as they read about an agronomic lore curiously compounded (in our eyes) of informed experiment and credulous superstition.

To summarize the conclusions briefly, Byzantium inherited an agricultural tradition existing on a popular and pragmatic, as well as an intellectual, level. Like most Byzantine traditions, it was rooted in the Hellenistic world and seemingly changed little from the ancestral form. It nonetheless fulfilled a distinct function in a medieval society that was anything but economically passive. The mobile capital which it helped to create transformed Byzantium so profoundly that old social theories could not prevail against new social realities. In short, the Byzantine Empire by the eleventh century was founded upon not a declining but a developing society, developing in part through the use of accumulated wisdom which the men of that society would have been foolish to ignore and never in fact forgot.

While space does not permit a full survey of the accumulated wisdom in its ancient form, an analysis of the earlier accomplishments and failures will sharpen definition of the problems Byzantium had to face. The inherited tradition, on both its learned and its practical level, embodied centuries of experiment by societies that had grown into parts—eventually into the whole—of the Mediterranean environment. Modern agricultural experts took the full measure of that ancient achievement when they discovered that supposedly advanced technologies, imported into the Middle East, did not always increase local productivity immediately or to any spectacular degree. Failures of a different order have been imputed to the Romans, the last of several peoples to develop and synthesize practice throughout the region. They failed (it is charged) to adapt their Mediterranean techniques to the lands they conquered in the continental European environment. While they knew about the horse collar, the water mill, and the heavy plow, they failed to utilize these and other practices destined to make the fortune of medieval European agriculture.<sup>3</sup>

One reason—not necessarily *the* reason—for Roman failure or lack of enterprise may be discovered if we remember that agricultural innovation often filters from the top down. It may occur when some member of the elite, who

<sup>3</sup> A good initial survey of ancient agriculture is L. Harmand, "La terre et ses problèmes dans l'antiquité grecque et romaine," *Information historique*, 18 (1956), 59–68. Copious recent bibliography in C. E. Stevens, "Agriculture and Rural Life in the Later Roman Empire," in *Cambridge Economic History*, I, 2nd ed. (Cambridge, 1966), 92–124. I have, of course, greatly depended upon the works of M. I. Rostovtzeff: *Social and Economic History of the Hellenistic World*, 3 vols. (Oxford, 1941), and *Social and Economic History of the Roman Empire*, 2nd ed. in 2 vols. (Oxford, 1957) (hereafter *SEHHW* and *SEHRE*, respectively). The concept of "growing into the environment" is borrowed from R. J. Braidwood: see, e.g., his "Prelude to Civilization," in C. H. Kraeling, ed., *The City Invincible* (Chicago, 1960), 297–313.



can afford to take a chance, has a reason or stimulus to take that chance as well as the means to assure him success. Comparisons suggest that the Roman elites did not always experience the full range of stimuli nor did they always enjoy the means. As the brilliant history of agricultural development under the Hellenistic monarchs and under the enlightened despots of the eighteenth century alike indicate, balance of power conflicts can provide the most powerful of stimuli. Improved productivity swells the resources of the treasury and, therewith, increases the power of the political unit in relation to its foe.<sup>4</sup> Now Rome of the empire, as it faced the lesser peoples in north and south, never felt itself locked in a balance of power struggle. Only when it looked to the east, to Persia, did it find an opponent with whom it must play the game according to the traditional rules. It is thus no accident that behind the one great agricultural innovation of the late Roman period—the introduction of silk cultivation into Justinian's empire—lurked balance of power considerations, focussed in the desire to terminate economic dependence on the Sassanian realm.<sup>5</sup> Nor is it any accident, to turn to a period beyond the immediate chronological scope of this paper, that the emperors of Nicaea, after 1204, personally supervised the most intensive program of agricultural improvement possibly ever witnessed in the lands once subject to the sway of Constantinople. They were locked in a desperate struggle for power among the states succeeding the dismembered Byzantine Empire.<sup>6</sup>

Roman agriculture of the empire, in contrast, lacked this particular stimulus to experiment and adapt. It also lacked the means, for increasingly its great estates were worked by dependent tenants enjoying various kinds of rights. While the estate owner could, and often did, trample upon such rights, brigandage hardly created an atmosphere conducive to successful experiment. The owner would have found his best guarantee of success in a more amenable labor force, in slaves who could be beaten or in salaried workers who could be discharged for failing to follow orders. Neither category of men bulked large among those who tilled his fields.<sup>7</sup>

Despite its failure to adapt and adopt, neither in its ideals nor in its realities did Roman agriculture decline absolutely during the second, third, and fourth centuries. Work in the garden and the field had always been recommended to

<sup>4</sup> R. Delatouche, "Elites intellectuelles et agriculture au Moyen Age," in *Recueil... Frédéric Le Play* (Paris, 1956), 147–57, discusses the role of the elites with examples from medieval Europe. For a comparison of the enlightened despots and the Hellenistic monarchs, see A. Aymard, *L'Orient et la Grèce antique* (Paris, 1953), 448.

<sup>5</sup> E. Stein, *Histoire du Bas-Empire*, II (Paris-Brussels, 1949), 769–73; R. S. Lopez, "Silk Industry in the Byzantine Empire," *Speculum*, 20 (1945), 1–42, and S. Vryonis, Jr., "Byzantine Δημοκρατία and the Guilds in the Eleventh Century," *DOP*, 17 (1963), 300, note 46, for a critique of Lopez' views on public and private guilds.

<sup>6</sup> Improvements were particularly noteworthy under John III Vatatzes (1222–1254). Nicephorus Gregoras, II.6 (Bonn, vol. I, 41 ff.); A. Heisenberg, ed., *Theodori Scutariotae additamenta*, in *Acropolites, Opera* (Leipzig, 1903), vol. I, 286 ff. See also D. Xanatalos, "Wirtschaftliche Aufbau- und Autarkie-Massnahmen im 13. Jahrhundert," *Leipziger Vierteljahrschrift für Südosteuropa*, 3 (1939), 129–38, and H. Glykatzi-Ahrweiler, "La politique agraire des empereurs de Nicée," *Byzantion*, 28 (1958), 57–66.

<sup>7</sup> Pliny the Younger was well aware of the problem: *Epist.*, VII.18; IX.37 (ed. R. A. Mynors [Oxford, 1963], 212f, 288f.); see Rostovtzeff, *SEHRE*, vol. I, 98 ff., 343 ff.

the elites as a fitting exercise for muscles and mind. To be a good farmer demanded knowledge, skill, and care: all of them capacities that created an attitude toward the environment best described as one of cautious aggression. Tracks of men during the late empire who possessed these capacities, and had adopted the attitude, may be found in North African inscriptions, the papyri of Theadelphia, and in the Talmud.<sup>8</sup> The lineaments of the good farmer may be discerned in Dio of Prusa, in the Emperor Julian during his youth, and among the numerous correspondents of Libanius as well as the sophists whose lives Eunapius rehearsed.<sup>9</sup>

Far more significant than these representatives of a dying world was the herald of a new: St. Basil of Caesarea. This descendant of an old Cappadocian family practiced gardening in his youth; in his maturity he praised agriculture as a skill about which only the expert should pronounce. These were, of course, commonplaces at least as old as Xenophon, yet they held a meaning for Basil which it would be difficult to overestimate. The monks who lived by his rules, he enjoined, should practice agriculture as the occupation most conducive to stability. So, in the hands of Basil of Caesarea, a very old value cherished by the pagan elite—agriculture as a skilled and dignified occupation—was redefined as a value to be cherished by the Christian elite, the members of the monastic community. The secular clergy, too, highly esteemed the knowledgeable pursuit of agriculture. Synesius in the early fifth century wrote of Dioscurus, bishop of Darnis, that "his fellow poor at Alexandria owe [him] much

<sup>8</sup> On the value of agriculture as a τέχνη and as an occupation for the upper classes, see Xenophon, *Oeconomicus*, vi.4–10 (ed. E.C. Marchant, Loeb, 408, 410); i.1–4 (*ibid.*, 362); xx.2–5 (*ibid.*, 510); Cato, *De agri cultura*, praef. (ed. A. Mazzarino, Teubner, 5f.); Varro, *Rerum rusticarum libri*, I.iii–iv.4 (ed. H. Keil, Teubner, 17f.); Columella, *Res rustica*, I.praef.3–6 (ed. H. B. Ash, Loeb, vol. I, 4ff.); Pliny, *Historia naturalis*, XVIII.(4).19–(5).22 (ed. C. Mayhoff, Teubner, vol. III, 146f.). The inscriptions of Henchir Mettich have been discussed by R. M. Haywood, *Roman Africa*, in T. Frank, ed., *An Economic Survey of Ancient Rome*, IV (Baltimore, 1938), 100; Egypt: instructions on the pruning and planting of new vines in P. Flor. 148 (A.D. 266/7), cf. P. Oslo 63 (3rd cent.); examples of biennial and triennial rotation in M. Schnebel, *Die Landwirtschaft im hellenistischen Aegypten*, I (Munich, 1925), 218ff., nos. 11–20, 23–31, 32–43; cf. A. C. Johnson and L. West, *Byzantine Egypt: Economic Studies* (Princeton, 1949), 129f., 131f. The Talmud: F. M. Heichelheim, *Roman Syria*, in Frank, ed., *An Economic Survey*, vol. IV, 129ff., and J. Newman, *The Agricultural Life of the Jews in Babylonia between the years 200 C.E. and 500 C.E.* (London, 1932), 75–81.

<sup>9</sup> For Dio's estate management, see *Discourse* XLVI.5, 8f. (ed. H. Lamar Crosby, Loeb, 230f., 234f.). Even Pliny the Younger, the "typical representative" of the imperial aristocracy of service (Rostovtzeff, *SEHRE*, vol. I, 196f.), had some grasp of the financial aspects of reconditioning an estate: *Epist.* III.19 (ed. Mynors, 94f.). Julian recalled the viticulture he had practiced as a youth on a Bithynian estate later presented to Evagrius the Rhetor: *Epistulae et leges*, ed. J. Bidez and F. Cumont (Paris, 1922), VIII (= J. Bidez, ed., *Oeuvres complètes*, I, pt. 2 [Paris, 1924], 13f.). John Chrysostom, *In Acta apostolorum*, XVIII (PG, 60, col. 146), scolded the wealthy who adorned their houses and neglected their fields, but the archaeological evidence does not bear him out: R. Paribeni, "Le dimore dei potentiores," *Römische Mitteilungen*, 55 (1948), 131–48, and other studies cited in my "Age of Constantine," *DOP*, 21, p. 16f.; cf. L. Harmand, *Libanius: Discours sur les patronages* (Paris, 1955), esp. 140–48. Libanius mentions Maximus of Ancyra, of good family and great wealth, who refrained from laying hands upon neighboring estates but practiced good agriculture: *Epist.* 301.3 (ed. R. Foerster, Teubner, vol. X, 279); other instances in *Epist.* 419, 471, 1114, 1239 (ed. Foerster, vol. X, 410; vol. XI, 220, 320). Eugenius, the father of Themistius, judged agriculture a good form of relaxation after the labors of philosophy and was discovered, in his old age, planting vines and irrigating fields: Themistius, *Oratio* XX.236d–237a (ed. W. Dindorf, 290), and cf. Eunapius, *Vitae philosophorum*, 502 (ed. W. C. Wright, Loeb, 550). Themistius' own *Oratio* XXX (ed. Dindorf, 421–25) is merely a rhetorical exercise on agriculture. Synesius compliments his brother on a particularly outstanding plant produced in his garden and on the reputation enjoyed by that same garden: *Epist.* 106 (PG, 66, col. 1489).

gratitude, for he helps them to cultivate their lands and he is . . . indefatigable in getting a profit from these even in bad years. . . ." The good farmer had found his place in Christendom, and we shall later see how much he made of that place when changing conditions provided means and new stimuli.<sup>10</sup>

As on its practical level, so in its learned or theoretical aspects agriculture had grown into its environment to become a thoroughly Mediterranean product by the end of the second century A.D. The earliest systematic treatises seem to have been written in Greece during the fifth and fourth centuries B.C.; the genre proliferated during the Hellenistic age, most particularly in the Pergamene kingdom to judge by the sources later cited by the Roman agronomist Varro. Parenthetically, the thirteenth-century rulers of Nicaea, the boundaries of whose empire more than a thousand years later nearly coincided with those of ancient Pergamum, were to continue a venerable local tradition when they addressed themselves to agricultural experiment and reform. To return to the ancient world and to move to the west, the Carthaginian Mago produced a massive survey, translated during the second century B.C. into Latin by order of the Roman senate. Roman agronomists later blended Carthaginian with native Italian practice and with Greek treatises from the east. As a result of their efforts the reader of Varro (116–27 B.C.), Columella (first century A.D.), or Pliny (A.D. 23–79) has before him a synthesis of materials gathered from every quarter of the Mediterranean world, carefully tested by personal observation or practice, and presented in Latin dress. Beyond this achievement, the Latin agronomic treatise fails to develop to any significant degree.<sup>11</sup>

The Greek tradition of the third and fourth centuries manifests, in contrast, a remarkable renaissance after two or more centuries of relative silence. Some

<sup>10</sup> Basil's ancestry and background: W. M. Ramsay, *Pauline and Other Studies*, 3rd ed. (London, s.d.), 369–406, and *idem*, "A Noble Anatolian Family of the Fourth Century," *The Classical Review*, 33 (1919), 1–9; B. Treucker, *Politische und sozialgeschichtliche Studien zu den Basilien-Briefen* (1961), 7–16. Agricultural activities of Basil and of Philagrius, another friend of Basil's, mentioned in Gregory Nazianzen's *Epistt.* V.5, and XXXIII (ed. Gallay, 6, 42f.). The provisions of Basil's rule in *Regulae fusius tractatae*, *interr.* 38 (PG, 31, col. 1017 BC); agriculture discussed as a skill in *Epist.* 204.5 (ed. and trans. Y. Courtonne, II [Paris, 1961], 177); cf. D. Savramis, *Zur Soziologie des byzantinischen Mönchtums* (Leiden, 1962), 39–45. Note also Gregory of Nyssa's description of "nature controlled by skill" at Vanota on the Halys River in Galatia: *Epist.* XX (ed. G. Pasquali, 2nd ed., 68–72, esp. 71, lines 2, 3). Synesius, *Epist.* 67 (PG, 66, col. 1424 C; trans. A. Fitz Gerald, *The Letters of Synesius of Cyrene* [London, 1926], 157). In the same letter Synesius (col. 1427 A) mentions a presbyter who was waiting for a favorable moment to sell his crops in order to discharge a debt. His sense of profit may be compared with the merchandizing outlook of John the Almsgiver, patriarch of Alexandria in the seventh century: *Vita S. Ioanni eleemosynarii*, x, xiii, xvi, xxviii (ed. H. Gelzer, 18f., 27f., 34, 60–62).

<sup>11</sup> On the ancient treatises, see Rostovtzeff, *SEHWW*, 351–65, 541ff., 562f., 697, 1160–97; E. Oder, "Schriften über Landwirtschaft und Verwandtes," in F. Susemihl, *Geschichte der griechischen Literatur in der Alexandrinerzeit*, I (Leipzig, 1891), 829–83; G. Sarton, *A History of Science*, 2: *Hellenistic Science and Culture* (Cambridge, Mass., 1959), 379–99; H. Gummerus, *Der Römische Gutsbetrieb als wirtschaftlicher Organismus nach den Werken des Cato, Varro und Columella* (Leipzig, 1906). M. I. Rostovtzeff provided his most detailed account of Pergamene agriculture in "The Economic Policy of the Pergamene Kings," in *Anatolian Studies presented to Sir William Mitchell Ramsay* (Manchester, 1923), 359–90, esp. 375–83. The catalogue of Greek writers, as well as a note on Mago, will be found in Varro, I.1.8–11 (ed. Keil, 8f.); cf. Pliny, *HN*, XVIII.(5).22f. (ed. Mayhoff, vol. III, 147f.). The relative decline of Greek treatises during the early empire is noted by E. Oder, "Beiträge zur Geschichte der Landwirtschaft bei den Griechen. I," *Rheinisches Museum für Philologie*, 45 (1890), 78. As examples of the Mediterranean (or comparative) quality, note Varro, I.xx.4f. (ed. Keil, 39), on soils; Columella, II.1.22–25 (ed. Ash, vol. I, 122–24), on deep plowing; Palladius, *Opus agriculturae*, IV.16 (ed. J. C. Schmitt, Teubner, 132), on fruit production; and Varro, I.lvii.2 (ed. Keil, 64f.), on granaries.

of these compilations, known for the most part only insofar as the *Geoponica* (of later date) excerpts them, seem to have been worthless collections of irrational lore. Others were accorded greater respect: among them, the collection made by Vindanius Anatolius in the fourth century and the treatise of Cassianus Bassus, probably to be dated in the sixth century.<sup>12</sup> The latter based certain conclusions upon personal experiments conducted upon his estate ἐν τῷ Μαρατωνύμῳ χωρίῳ. Where this estate may have been located is a matter of conjecture. Sources of the fourth to sixth centuries mention villages and peoples in northern Syria that bear similar names. It is entirely possible that an enterprising landowner may have worked and written not far from a region noted during those same centuries for agricultural expansion occasioned by the growth of demand at Constantinople.<sup>13</sup>

The treatises in question subsequently met with varying fortunes. As late as the ninth century, the patriarch Photius could still consult Vindanius and his forerunners.<sup>14</sup> Cassianus seems to have been slightly reworked between the seventh and the tenth centuries; traces thereof may be found in Codex Marcianus, erroneously taken by the editor of the Teubner *Geoponica* to represent one family derived from a supposed tenth-century archetype of his text. A tenth-century editor removed Cassianus Bassus' dedication to his son and replaced it with a preface that seemed to make the work a compilation especially prepared in honor of the Emperor Constantine Porphyrogenitus. This literary curiosity, ordinarily taken to be "the *Geoponica*," may be found in Codex Florentinus, utilized by the Teubner editor. The fact that it contains few, if any, innovations to be dated after the sixth century poses certain questions. Did Byzantine agriculture, as the heir of the late Roman, remain perfectly adapted to its environment, never sensing the pressure to innovate with spectacular results as did the medieval European? Or is the *Geoponica* thoroughly unrepresentative, to be classed with those Byzantine treatises and encyclopedias that looked to the past and took little account of current practice?<sup>15</sup>

<sup>12</sup> Latin agronomists: Gargilius Martialis in the third century drew upon Columella and Pliny together with the writings of two second-century Greek authors: the brothers Quintilii. In the early fifth century Palladius used Martialis, returned directly to Columella while adding from Vindanius Anatolius. See "Gargilius," in Pauly-Wissowa, *Real-Encyclopädie*, 7, cols. 760–62; M. Wellmann, "Palladius und Gargilius Martialis," *Hermes*, 43 (1908), 1–31; J. Svennung, "De auctoribus Palladii," *Eranos*, 25 (1927), 123–78. Greek treatises: Oder, "Beiträge zur Geschichte d. Landwirtschaft bei den Griechen" (*supra*, note 11), 58ff, 202ff; *ibid.*, 48 (1893), 1ff. On Anatolius: O. Seeck, *Die Briefe des Libanius* (Leipzig, 1906), 59–66; P. Petit, *Libanius et la vie municipale à Antioche* (Paris, 1955), 366f; Oder, "Beiträge," 95f. Cassianus Bassus: Oder, "Beiträge," 1ff., esp. 27ff., and the studies of Fehrle and Nallino, cited *infra*, notes 15, 16.

<sup>13</sup> *Geoponica* (see note 15), V.6.3, 6, where it is a question of autumnal planting in dry areas; Pauly-Wissowa *Real-Encyclopädie*, 14, cols. 1435f., s.vv. Μαρατῶ κώμη; "Maratocupreni"; Μάρατον Ζαβδόλης χωρίον. See G. Tchalenko, *Villages antiques de la Syrie du Nord. Le Massif du Bélus à l'époque romaine*, I (Paris, 1953), 394ff., 408ff.

<sup>14</sup> Photius' notice of the collection: *Bibliotheca*, cod. 163 (ed. R. Henry, vol. II, 134f.)

<sup>15</sup> The *Geoponica* is cited throughout after the Teubner edition of H. Beckh (Leipzig, 1895). Beckh also provided a survey of the manuscripts accessible to him in "De Geoponicorum codicibus manuscriptis," *Acta Seminarii philologici Erlangensis*, 4 (1886), 261–346, but there were many which he did not collate, and the oldest discovered MS was not noted until relatively recently by A. D. Wilson, "A Greek Treatise on Agriculture," *British Museum Quarterly*, 13 (1939), 10f. The Teubner edition was criti-

In answering these questions, or in rephrasing them since the alternatives they suggest are by no means mutually exclusive, it is important to note the warm welcome accorded the *Geoponica* or its constituents in the lands beyond Byzantium during the Middle Ages and even in the early modern period. The interested agriculturalist might have consulted Greek treatises rendered into his own or a familiar tongue in seventh-century Persia and in the Damascus of the Umayyads, in Baghdad during the eighth and ninth centuries, in Armenia, Italy, and Muslim Spain after the twelfth century, in sixteenth-century Germany, seventeenth-century Holland, and nineteenth-century England or France.<sup>16</sup> It is a fascinating chapter in the history of cultural borrowing from which two examples deserve citation. The Lutheran Cornarius, in 1538 the first to provide a complete Latin translation, and Grynaeus, editor in 1539 of the first printed Greek text, were Renaissance humanists, fully confident that dissemination of a revered classical text would better mankind's lot. Both shared a contempt, widespread in Germany of the early sixteenth century, for the brutish peasant and his slovenly practices. Both hoped that access, through a Latin translation, to the order and system of the ancients might teach him to mend his ways. The

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cized severely at the time of its publication, and some corrections were noted later by Ch. Charitonides, Εἰς τὰ Γεωπονικά, *Byzantinisch-neugriechische Jahrbücher*, 6 (1928), 169–82. G. Pasquali was the first to note the differences between Florentinus and Marcianus: "Doxographica aus Basiliusscholien," *Nachr. d. K. Gesell. d. Wiss. Göttingen: Phil.-Hist. Kl.* (1910), 194–228; his ideas were developed in two studies by E. Fehrle, "Richtlinien zur Textgestaltung der griechischen Geoponica," *SBHeidelb., Phil.-hist. Klasse* (1920: Abh. 11), 12ff., and *Studien zu den griechischen Geoponikern*, Στοιχεῖα, III (Leipzig, 1920), and in the studies of Ruska and Nallino, cited *infra*, note 16. These studies were apparently inaccessible to E. E. Lipshitz in her translation and commentary: *Geoponiki* (Moscow, 1960), a work I was able to consult thanks to the kindness of George Majeska. Neither do they seem to have been used in the following: A. Dain, "L'encyclopédisme de Constantin Porphyrogénète," *Bulletin de l'Association Guillaume Budé*, Ser. 3, No. 4 (1953), 64–81, esp. 69; P. Lemerle, "L'encyclopédisme à Byzance," *Cahiers d'histoire mondiale*, 9 (1966), 596–616, esp. 609f.; "Geoponica," in *Der kleine Pauly*, II (Stuttgart, 1967), 756. Post-classical allusions in the *Geoponica* include: an allusion to the forty martyrs (I.5.5); the dictum that thunder in Gemini portends either a crop failure or an Arab attack (I.10.4); directions on what to plant, and when, in the vicinity of Constantinople (XII.1). Others might be discovered if ever we have a proper text established on the basis of the translations and derivations cited below as well as a full survey of the manuscripts.

<sup>16</sup> C. A. Nallino, "Tracce di opere greche giunte agli Arabi per trafila pehlevica," in T. W. Arnold and R. Nicholson, eds., *A Volume of Oriental Studies presented to Edward G. Browne* (Cambridge, 1922), 346–51, suggests a Pahlevi version of the seventh century; the several Arabic versions are noted in C. Brockelmann, *Geschichte der arabischen Literatur*, 2nd ed. (Leiden, 1943–49), vol. I, 220, 363f., 651, and discussed in the works of Fehrle (*supra*, note 15), as well as those of J. Ruska, "Weinbau und Wein in den arabischen Bearbeitungen der Geoponica," *Archiv für die Geschichte der Wissenschaft und der Technik*, 6 (1913), 305–20, and "Cassianus Bassus Scholasticus und die arabischen Versionen der Griechischen Landwirtschaft," *Der Islam*, 5 (1914), 174–79. The Syriac version was published by A. P. de Lagarde, *Geoponicon in sermonem Syriacum versorum quae supersunt* (Leipzig-London, 1860), and analyzed in a study reprinted in his *Gesammelte Abhandlungen* (Leipzig, 1886), 120–46; cf. A. Baumstark, *Lucubrations Syro-Graecae* (Leipzig, 1894), 384–405. The Armenian version (Girk' Vastakots') was published in Venice, 1877, and analyzed by C. Brockelmann, "Die armenische Übersetzung der Geoponica," *Byzantinische Zeitschrift*, 5 (1896), 385–409. The manuscripts of Burgundio of Pisa (12th century), who used the sections on viticulture from the *Geoponica*, are noted by L. Thorndike, *A History of Magic and Experimental Science*, I (New York, 1923), 604f.; from Burgundio, the chapters passed into Piero de' Crescenzi, *Liber cultus ruris*, IV. xxi, xxxii, xxxv, xxxviii, xlii (Italian trans. ed. B. Sorio, *Trattato della agricoltura*, II [Verona, 1851], 47, 54, 57, 59, 66); they are also found in the *Kitab al-felahah*, of Ibn al-Awam, translated by J. J. Clement Mullet as *Le livre de l'agriculture* (Paris, 1864–67). The various post-medieval translations and editions are listed by M. de Raynal, "Étude sur les Géoponiques," *Annuaire de l'Association pour l'encouragement des études grecques*, 8 (1874), 89–122, esp. 92f.

plowboy was to better his agriculture by reading the Latin *Geoponica* while improving his morals by whistling the psalms, lately Latinized for him by Erasmus. Many centuries later, a very different society found use if not for the *Geoponica* at least for a treatise embodying some of its chapters: the *Book of Agriculture* of Ibn al-Awam. Two reasons in the 1860's, according to its translator, justified a new French version of this Spanish-Muslim work dating from the twelfth century. The enterprise honored and partook of the material progress fostered by and under Napoleon III. As the original had been compiled with Spanish peninsular conditions in mind, the translation would prove valuable throughout the French possessions, nearby and newly won, in Algeria. The generation that built the Suez Canal found a prop for its modern materialism and its modern imperialism in a medieval derivative of the *Geoponica*.<sup>17</sup>

Naive and misinformed as the borrowers often were or seem, they rarely turned to the *Geoponica* or its associated texts to satisfy antiquarian curiosity alone. The Greek agricultural treatise was deemed useful in achieving some sort of social purpose. Not until the late nineteenth century did it lose that appeal when it passed into the hands of classical philologists whom the Industrial Revolution had thoroughly divorced from the countryside. Thereupon the *Geoponica* was stigmatized for crass superstition and irrationality, characteristics which a distinguished twentieth-century historian of science did not, as a matter of fact, believe the book displays to any unusual degree. In short, most of its readers over the centuries have taken the *Geoponica*, or its constituents, seriously. The historian is thus encouraged to seek for the function these treatises may have fulfilled in Byzantine society; he is particularly inclined to do so since the members of that society copied out the works in question in no less than fifty manuscripts and excerpted from them when occasion demanded.<sup>18</sup>

A review of the *Geoponica* (wherein, to repeat, the modern reader alone may consult its forerunners) suggests that it served the needs of a special and limited group within Byzantine society. Like the Roman treatises, it is written in a spirit of cautious aggression towards the environment. Unlike the Roman, it says little of barley or wheat cultivation but dwells at length on trees, plants, the vine, and herbs, referring particularly to conditions in Bithynia and "in the climate of Constantinople."<sup>19</sup> As the preface indicates, the book contains useful matter and "additional material" should one wish to create pleasant

<sup>17</sup> The prefaces of Cornarius and Grynaeus are reprinted in the edition of J. N. Niclas, *Geoponicorum sive de re rustica libri XX*, I (Leipzig, 1781), p. Lxxviff. For sixteenth-century German attitudes towards the peasant, see B. H. Slicher van Bath, *The Agrarian History of Western Europe, A.D. 500-1850*, trans. from the Dutch (London, 1963), 193f. Clement Mullet lists his motives for the translation of Ibn al-Awam in *Le livre d'agriculture*, vol. I, 4f., 8f., 98.

<sup>18</sup> As late as 1874 de Raynal, "Étude," 118f., considered it a useful work, at least in part. The historian of science is L. Thorndike (*supra*, note 16). For far more critical judgements, see Oder (*supra*, note 12) and W. Gemoll, "Untersuchungen über die Quellen, der Verfasser und die Abfassungszeit der *Geoponica*," *Berliner Studien für classische Philologie und Archaeologie*, 1 (1882), 1-280, esp. 245 and 247, on contradictions and repetitions. Excerpts are cited *infra*, note 24.

<sup>19</sup> For the spirit, compare *Geoponica*, I.9.1, with Pliny, *HN*, XVIII. (56). 201-06 (ed. Mayhoff, vol. III, 199f.). Constantinople in *Geoponica*, XII.1; Bithynia in V.3.1, 32.2, 36.3; VII.18.1; XIII.5.3; XX.46.3.

sights and smells.<sup>20</sup> It dwells upon operations that seem almost dilettantish to us: the cultivation of parks, the breeding of hybrids, and gardening of an unremunerative nature. Any good estate, for example, should be dotted with hills; if the property does not contain them, then the owner should construct them artificially.<sup>21</sup> The compilation offers little to a subsistence farmer who probably could not, in any event, have read it. A large estate owner near Constantinople would, however, have found it greatly to his taste, interested as he was in cash crops rather than low-yield cereal staples and able as he was to experiment and beautify his property. The text contains yet another hint as to the nature of its reading public. Material which seems completely extraneous to the modern reader, including all manner of mythological tales as well as arcane lore ranging from the nearly scientific to the crassly superstitious, constituted the staple intellectual fare of the class to which the estate owner would have belonged: the aristocracy of Constantinople.<sup>22</sup>

Members of that elite group, and even of the provincial aristocracy, beyond question consulted the treatises and engaged in precisely those operations which the *Geoponica* details. Photius, in the ninth century, judged among a number of the *Geoponica*'s sources on the grounds of observation and experiment. He urged the pious husbandman to pass over the fables or "Greek deceit," and certain manuscripts expunge exactly that range of material.<sup>23</sup> (It is easy to forget that in ninth-century Byzantium the Christian attitude could also be the rational or scientific attitude.) Michael Psellus copied out sections on cereal cultivation, and Choniates requested a text to aid him in the cultivation of his garden.<sup>24</sup> Cecaumenus urged his son to invest in *autourgia*: in mills, workshops, gardens, and trees, in whatever produces a yearly income directly or by rental. *Autourgia* was not, of course, an invention of Cecaumenus. A recognized category in Byzantine fiscal practice and in the laws on ecclesiastical property, it included those forms of capital investment which, according to the Byzantine view, produced without renewal of the initial outlay.<sup>25</sup> These

<sup>20</sup> *Geoponica*, proem. 9, and compare X.7.11, on the planting of citron trees.

<sup>21</sup> *Geoponica*, II.8.1; cf. II.6.5.

<sup>22</sup> The intellectual interests of the groups which read the *Geoponica* are manifest in a number of passages, e.g., XV.1.2, on doctrines of sympathy; Gemoll, "Untersuchungen," 27, noted the textbook origins of the mythologies. A recent survey of the intellectual interests of the Byzantine aristocracy will be found in R. H. Jenkins, "Social Life in the Byzantine Empire," *Cambridge Medieval History*, IV, pt. 2 (Cambridge, 1967), esp. 80–84. While the present study seeks to determine the class affiliations and interests of the *reading public* of the *Geoponica*, Lipshitz, *Geoponiki*, 10ff. seeks to demonstrate the class origins of the *author*.

<sup>23</sup> Photius, cited *supra*, note 14.

<sup>24</sup> Michael Psellus, *Περὶ γεωργικῶν*, ed. J.-F. Boissonade, in *Anecdota Graeca*, I (Paris, 1829), 242–47; Michael Choniates, *Epist.* XXII.3, ed. Sp. Lampros, *Μιχαὴλ Ἀκομινάτου τοῦ Χωνιάτου τὰ σωζόμενα*, II (Athens, 1880), 35. Excerpts from the *Geoponica* or its sources also in M. H. Thomson, *Textes grecs inédits relatifs aux plantes* (Paris, 1955), 50–63.

<sup>25</sup> Cecaumenus, *Strategicon*, 88 (ed. V. G. Vasilievsky and V. Jernstedt [St. Petersburg, 1896], 36). On *autourgia*, see Theodore Balsamon, *In canones synodi VII oecumenicae*, Canon XII (PG, 137, col. 929 B), cited by F. Dölger, *Beiträge zur Geschichte der byzantinischen Finanzverwaltung* (Munich, 1926), 151; cf. P. Lemerle, *Prolégomènes à une édition critique et commentée des "Conseils et Récits" de Kékau-ménos*, Académie royale de Belgique, Classe des lettres et des sciences morales et politiques: Mémoires, LIV (Brussels, 1960), 94. I do not know what to make of the change in meaning of *autourgia*: in Byzantine Egypt it comprehended that which one worked oneself, i.e., without slaves or leaseholds. See E. R. Hardy, *The Large Estates of Byzantine Egypt* (New York, 1931), 117.

were, of course, the forms of agricultural enterprise to which the *Geoponica* was largely devoted while it neglected cereal cultivation.

By far the most innovative among the experimentalists was Constantine Monomachus as Psellus describes him. He delighted in "the laying of one thing upon another, the conquering of labor by intelligence, the practice of agriculture without labor or plow . . ."; he was able to "cheat time by the swiftness of transplantation, to dispense with manual labor by the skill of creation . . . so that many were incredulous at seeing yesterday's plain and the hill of three days ago converted on the third day into a garden." It would be difficult to conceive of interests closer to the spirit of the *Geoponica*. Even more, behind the biographer's irony lurks a man of ingenuity and enterprise, endowed with an eye for profits, a penchant for laborsaving devices, and a zeal for botanical experiment.<sup>26</sup>

That Monomachus limited himself to landscape architecture and the garden by no means demonstrates the insignificance of his efforts. The garden had always been a center for experiment in the ancient world, and it was to maintain that function even in early modern Europe. French experimentalists of the sixteenth century read treatises on gardening and not on field agriculture since the garden was (as it had been for the Byzantine before them) private property wherein the innovator need not fear that he might trample upon complex community rights.<sup>27</sup> The problem was to bring innovation out of the garden and into the fields, thus joining learned tradition with popular practice to the benefit of both. If the Romans somewhat failed in that respect, we have found reasons for their failure in several aspects of their society and polity. If the Byzantine Empire achieved a greater measure of success, a similarly general view of their society, and the pressures that shaped it, should explain why.

A distinctively Byzantine society emerged gradually between about 540 and 700 under the stress of four major shocks or traumas. In addition to the first of these—the constant pressure of military necessity—the Eastern Empire further experienced a profound demographic crisis, the effects of which it would be difficult to overestimate. The source of that crisis lay in the great plague of 542/43 and in its increasing virulence. When Procopius states that its victims died vomiting blood, all unknowingly he tells his readers that the bubonic form had mutated into the pneumonic. The latter affects the lungs, produces mortality rates of 90% among its victims, and may be transmitted directly between humans. Since the rat is no longer necessary to act as intermediary, possibilities of infection are increased severalfold. When Corippus laments the actions of those surviving spouses who quickly remarried in hope of gain, he hints at a situation any demographer would quickly recognize. The disease hits a certain age cohort; that cohort of men and women will replenish the population by quick remarriage or by early union. Should the plague return, however, it will preferentially strike the infant population and not those members of the

<sup>26</sup> Psellus, *Chronographia*: "Constantine IX," 175 (ed. E. Renauld, vol. II, 57).

<sup>27</sup> On the garden in antiquity, see E. C. Semple, *The Geography of the Mediterranean Region* (London, 1932), chap. 17; and for France, J. Meuvret, "Agronomie et jardinage," *Hommage à Lucien Febvre*, II (Paris, 1953), 353–62.



older cohort who may have developed immunity. Evagrius, himself a survivor, bears eloquent witness to the repeated attacks that decimated the younger generation, the necessary replacements for those who had earlier died off. It is not surprising that, by the end of the sixth century, the empire desperately needed men to counter the enemies pressing upon it from east and west.<sup>28</sup>

It was to lose many of its leaders as well. When Heraclius arrived in 610 to decapitate Phocas and accept his challenge to "do better," he would have found sadly depleted the ranks of those who had held high office under Maurice. Aside from the latter's family, the suspicion and vengeance of Phocas had destroyed the generals Comentiolus and Narses as well as the praetorian prefect Constantine Lardys. There is substance behind the hyperbole of those sources that speak of two soldiers alone, among all those serving under Maurice, who survived to greet Heraclius. Nor was the carnage finished; with Phocas fell his partisans Domentiolus, Leontius, and Bonosus. All of these individuals, as high functionaries in the civil and military service, would most probably have held large estates in the vicinity of Constantinople and in Bithynia. What disposition Phocas and Heraclius made of the escheated estates, whether they passed into the grasp of the state as had the properties of so many who fell from grace under Justinian, the sources do not say. We can, however, be certain that when Heraclius arrived with the following he had collected in his journey from Africa through Thessalonica to Constantinople, he entered a city torn apart by a major social upheaval. This was the third of the traumas.<sup>29</sup>

The fourth was the loss of the Mediterranean grain supply, in particular the cessation of the "happy transport" that arrived each year from Alexandria to feed Constantinople. The definitive loss of Egyptian grain in 641 to the Arabs was not to be the first interruption of supply. Yearly shipments under Maurice failed at least once. When Nicetas captured Alexandria in 608 from the partisans of Phocas, he supposedly interrupted supply for two years. After Egypt fell to the Persians in 619, bread distributions in Constantinople were at first heavily tariffed and then suspended. Interruption or termination would have had indirect repercussions upon the military establishment as well. To relieve subsistence pressures on the provinces of the empire, Maurice ordered his western army to winter in enemy lands across the Danube; although the nearly contemporary *Strategikon* recommended such measures, the ensuing revolt cost the Emperor his throne and his life. Maurice had already promised veterans that they could hope for support in the *gerocomia* of Constantinople during their

<sup>28</sup> See my "Barbarians in Justinian's Armies," *Speculum*, 40 (1965), 305f., for sources and discussion; especially important are Procopius, *Bellum Persicum*, II.xxii.31; Corippus, *Iohannidos*, III.370; Evagrius, *Historia ecclesiastica*, IV.29. See also the recent survey by P. Charanis, "Observations on the Demography of the Byzantine Empire," in *Proceedings XIIIth Internat. Congr. Byz. Studies*, 445-65.

<sup>29</sup> A summary of the terror with reference to the sources in A. Pertusi's edition of George of Pisidia: *Giorgio di Pisidia, Poemi*, I: *Panegirici epici*, *Studia patristica et byzantina*, 7 (Ettal, 1959), 81. Decimation of the armies noted in Theophanes, *Chronographia*, ed. C. de Boor, I (Leipzig, 1883), 290, lines 16-19; Theophylactus Simocatta, *Historiae*, XII.12 (ed. de Boor, Teubner, 308, line 15ff.); and by James of Edessa in Michael the Syrian, *Chronicle*, X.8 (ed. and trans. J.-B. Chabot, vol. II, 310). Confiscations after the Nika riots: Procopius, *Bellum Persicum*, I.xxiv.57, and *Anecdota*, xi.31-41, xii.12. For confiscations during the Vandalic Wars, Stein, *Bas-Empire*, vol. II, 66f., and for epigraphical evidence: H. Grégoire, "Miettes d'histoire byzantine," *Anatolian Studies presented to . . . Ramsay*, 158-65.

old age. It is doubtful that his successors could readily have made the same promise after 619 or 641. In consequence of the loss of its Mediterranean grain supply, not only had the empire to exploit resources in the remaining provinces, it had also to find new means of supporting the soldier during the intervals between campaigns and once his service was finished.<sup>30</sup>

By action and interaction, these shocks produced a new society from old materials. It is hardly necessary to say that, following in the way prepared by the legislation and missionary activity of Justinian, Byzantium became a thoroughly Christian society. The steady growth of a faith embracing both learned and unlettered may be seen in the developing cult of the icons and in the growth of hagiography as a literary genre, flourishing in the hands of Moschos and Leontius of Naples. In common with the barbarian kingdoms around the Mediterranean, Byzantium developed a hatred for the outsider, the Jew, and Heraclius became the first Roman emperor to insist upon forced conversions.<sup>31</sup>

The developed theory of the Christian society has been described by others better qualified than the present writer, and two elements only of the theory need be recalled, elements essential to the following argument. The earthly city or empire was an imitation (*mimesis*) of the heavenly. As such, it was constructed of orders, ranks, and grades, and it was never subject to change. Beyond perfection one cannot go. Each man must find and keep his place in the divinely ordained *cosmos*.<sup>32</sup>

In the course of the seventh century Christian Byzantium also became a society dedicated to military effort. As P. N. Brown has remarked, several centuries in advance of Catholic Western Europe it had found "an honorable place for the Roman soldier" in the warrior for a holy cause.<sup>33</sup> From the successors of Justinian through and after the Heraclidae, its emperors had necessarily to demonstrate military capacity; during the eighth century, military success constituted an essential link in the bond between ruler and ruled. Constantine V represented his victories in pictures designed to fill all who saw them with enthusiasm. He took care, charged Nicephorus, to announce each victory, however small or unworthy, in triumphant letters to the city.<sup>34</sup>

Those over whom the emperors ruled had developed their own military capacity. Cities survived as fortresses, defended often by an urban militia.<sup>35</sup>

<sup>30</sup> See my "The Grain Supply of the Byzantine Empire, 330-1025," *DOP*, 13 (1959), 91-96, for sources and discussion.

<sup>31</sup> The above sentences summarize the suggestions of Brown, "The Later Roman Empire," 332. To the bibliography there cited, add G. Matthew, "The Christian Background," in *Cambridge Medieval History*, IV, pt. 1 (Cambridge, 1966), 43-61, and A. Sharf, "Byzantine Jewry in the Seventh Century," *BZ*, 48 (1955), 103-15.

<sup>32</sup> R. H. Jenkins, *Byzantium and Byzantinism* (Cincinnati, 1963), 3-5.

<sup>33</sup> "Later Roman Empire," 331. On the lack, however, of a crusading spirit in the western sense, see P. Lemerle, "Byzance et la Croisade," in *Relazioni del X Congresso internazionale di Scienze storiche*, 3: *Storia del Medioevo* (Florence, 1955), 595-620.

<sup>34</sup> Nicephorus, *Antirrheticus*, III.72 (PG, 100, col. 508); J. D. Mansi, *Sacrorum conciliorum nova et amplissima collectio*, XIII, col. 354f.

<sup>35</sup> E. Kirsten, "Die byzantinische Stadt," *Berichte XI. Internat. Byz.-Kongr.* (Munich, 1958), 18-34; F. Dölger, "Die frühbyzantinische und byzantinisch beeinflusste Stadt (V.-VIII. Jahrhundert)," *Atti 30 Congr. internaz. di Studi sull' Alto Medioevo* (Spoleto, 1959), 73 ff. (= Παράσπορά [Ettal, 1966], 114 ff.). A careful analysis of the relation of the auxiliary militia (the demes) to the circus factions and

The *Miracles of St. Demetrius* provide proof of how quickly the common folk had learned to fight. Late in the sixth century shipmasters avoided Thessalonica when they learned the city was under siege. In the seventh century merchants leaped ashore, drew their swords, and joined in defence against the menace of the Slavs.<sup>36</sup>

During the course of this same formative period (about 540 to about 700) military necessity shaped not only attitudes but institutions as well. A military hierarchy of command replaced the traditional civil administration of the Roman provinces. The army units, or themes, became a rurally based force, intimately a part of village life and supported economically by direct or indirect exploitation of the land. So profound was the impact of their presence upon the countryside that the themes often lent their names to the lands they occupied, thereby creating a new administrative unit: the medieval Byzantine theme in a regional or territorial sense.

Framed as these statements are to reflect only the generally accepted results of recent controversy, they skirt a host of debatable questions. How and when did the themes develop from human groups into territorial units? To put it more technically: when did official and popular usage extend the term "theme" to the region occupied by the army corps under the united military and civil authority of its commanding general or *strategos*? Within the theme, did soldiers during the formative period hold lands burdened with conditions of military service? If so, did the lands enjoy the name and anything like the status of the military properties, the *stratiotika ktemata* which the modern historian first encounters in the tenth-century legislation of the Macedonian emperors?

Recent research has generally answered these questions in a negative manner, or it has refused to assign responsibility for change to specific emperors at specific times. Legislative decree, it is held, never created a "thematic system." Through custom rather than law themes grew up unsystematically from scattered precedents. Although the soldiers of the themes constituted a rural force, no juridical relationship (it is further held) linked their possession of land to the administrative arrangements of the regional themes. The latter could have existed as administrative structures whether or not the thematic troops found their livelihood in the exploitation of *stratiotika ktemata*. Neither institution, the theme or the soldier's property, expresses the will of Heraclius or some other genius. Both reflect pressures of circumstance rather than deliberate social reform.<sup>37</sup>

In the present writer's view such conclusions threaten to substitute one unreality for another: impersonal evolutionary forces for the unfettered will of

a review of the military role of the former will be found in J. V. A. Fine, Jr., "Two Contributions on the Demes and Factions in Byzantium in the Sixth and Seventh Centuries," *Zbornik Radova Vizant. Inst.*, 10 (1967), 29-37.

<sup>36</sup> A.D. 597: *Miracula S. Demetrii*, 66, 71 (*Acta SS, Oct.*, vol. IV, 128, 129f.), to be contrasted with 170, 177, 178 (*ibid.*, 167, 169, 170), for A.D. 617-619.

<sup>37</sup> A full bibliography of the pertinent literature will be found in W. Kaegi, "Some Reconsiderations on the Themes (Seventh-Ninth Centuries)," *Jahrbuch der Österreichischen Byzantinischen Gesellschaft*, 16 (1967), 39-53. Negative views on the Emperor's role may be found in J. Karayannopoulos, "Über die vermeintliche Reformtätigkeit des Kaisers Herakleios," *ibid.*, 10 (1961), 53-72, and in P. Lemerle, "Quelques remarques sur le règne d'Héraclius," *Studi medievali*, 3rd Ser., 1 (1960), 347-61.

the hero in history. Those who have challenged, with admitted vigor and success, the doctrine of absolute and unqualified Heraclian foundation for both themes and properties have failed to assess Heraclius' personal situation and, partly for that reason, have minimized the watershed quality of his reign, its importance as a major phase in the formative period.

For, scant and unsatisfactory as they may be, the sources do support such a description of the years between 610 and 641. The *Chronicon Paschale* mentions a certain Leontius who was κόμης Ὀψαρίου (i.e., κόμης Ὀψικίου) in 626, while Theophanes or his source identifies, in 627, one Georgios as turmarch τῶν Ἀρμενιάκων.<sup>38</sup> Neither office, in precisely the form indicated, has yet been found in sources of an earlier date. Both belong to the future, to the age of the regional themes, and not to the past, to the era of the Roman provinces. In 610/11, an unknown chronicler for the first time used the term *themata* to identify army corps units or human groups.<sup>39</sup> In 622, according to the famous phrase copied by Theophanes from an earlier source, Heraclius went out ἐπὶ τὰς τῶν θεμάτων χώρας, "into the lands of the themes."<sup>40</sup>

The phrase is certainly ambiguous. It may mean the lands where the themes were; namely, the lands of western Asia Minor where certain army forces, the *praesentales*, had taken up temporary residence, having been dispatched thence in accordance with earlier practice, followed since the sixth century. Or, in prefiguration of later usage, the phrase may be taken in the sense of administrative regions to which the themes have lent their names. However one translates it, the very ambiguity of the phrase is significant. A passage describing events in the reign of Heraclius is the first to employ a term destined to persist, and to persist in a double meaning, for more than a century. It is particularly telling that the writer chooses to describe the objective and the route of march in a novel fashion. The Emperor does not go out (as he might have gone out in the sixth century) to assume active command of the *praesentales*, nor is he made to go into Bithynia or to Prusa. The points of reference used by the writer to describe his world have shifted from the late ancient to the medieval, from *praesentales*, provinces, and cities to the "lands of the themes." Does not the new frame of reference imply new relationships underlying it?<sup>41</sup>

To turn to Heraclius' personal situation, the circumstances under which he assumed the throne would have encouraged him to develop appropriate precedents from an earlier period, possibly blending them in such a fashion that his successors, subject to many of the same pressures, had no choice but to

<sup>38</sup> *Chronicon Paschale*, Bonn, 715, line 20, and Theophanes, ed. de Boor, 325, line 3. The sixth-century precedents for a κόμης Ὀψικίου cited by Pertusi are not exact: Theophanes, 236, line 21, 138, line 10. See A. Pertusi, "La formation des thèmes byzantins," in *Berichte XI. Internat. Byz.-Kongr.*, 38.

<sup>39</sup> Theophanes, ed. de Boor, 300, lines 4–6, and cf. 290, lines 16–19. Commentary by Pertusi, "Formation des thèmes," 18. See also F. Dölger, "Zur Ableitung des byzantinischen Verwaltungsterminus θέμα," *Historia*, 4 (1955), 189–98, and J. Karayannopoulos, *Die Entstehung der byzantinischen Themenverfassung* (Munich, 1959), 89–97. It should be emphasized that Karayannopoulos, Pertusi, and others have also demonstrated the persistence of certain old offices as well as the appearance of the new. The slate was not wiped clean.

<sup>40</sup> Theophanes, ed. de Boor, 303, line 10.

<sup>41</sup> Compare the interpretations of Pertusi, "Formation des thèmes," 19–22; G. Ostrogorsky, "Korreferat zu A. Pertusi," *Berichte XI. Internat. Byz.-Kongr.*, 1–4; Karayannopoulos, *Entstehung*, 29f.

perpetuate his work. It is essential to remember, first, that the Emperor came immediately from the west. As the son of that exarch of Africa who had himself refused to lead the uprising against Phocas, Heraclius would have had intimate acquaintance in the exarchate with a system of military government strongly resembling the themal structure as it later developed in the east. Secondly, some form of military government might well have seemed inescapable, for the Emperor's position in 610 was hardly reassuring. He could not have foreseen that the heirs of his body would rule, however shakily, for a century to come. He could only have known that his two immediate predecessors had lost their lives in the midst of bloody revolution while invaders threatened the northern and eastern frontiers. Whatever favor the Virgin had shown his cause, in the final analysis Heraclius held the empire by right of conquest.

When so defined, the difficulties inherent in Heraclius' situation resemble the dilemma Justinian had had to confront almost a century earlier on the morrow of the Roman conquest of Africa. In each instance, military strength alone could secure the future of the regime; thus civil problems became inseparable from, and subordinate to, military affairs. Like Justinian, Heraclius would have been encouraged to replace or supersede a civil governor by a military commander, endowing the latter with authority over both administrative hierarchies. In so doing, Heraclius would have instituted a structure patterned after arrangements in the African exarchate that were both familiar to him and sufficiently successful there so that he sought to return to the western province in a moment of seemingly ultimate crisis.<sup>42</sup>

Even though the sources hardly warrant crediting Heraclius with the establishment of *stratiotika ktemata* as the tenth century later knew them, he may well have distributed lands to his "following" on terms that historians will probably never know. When the *Chronicon Paschale* and Theophanes mention the names of certain officers (above, p. 48), they hint at the existence of the Opsician theme and the *Armeniakoï* during the 620's. The latter two are among the older themes that bore the names of peoples or groups not native to the area comprehended within the theme. This nomenclature, differing as it does from the geographical terminology of later centuries, implies transportation and settlement of folk into regions originally foreign to them. Heraclian policies of settlement and colonization, if any, would have been in no sense innovative; precedents may be found in the western exarchates and in measures adopted as late as the reign of Maurice in the east.<sup>43</sup>

<sup>42</sup> The emergency measures which Justinian had to adopt in Africa are discussed by Stein, *Bas-Empire*, vol. II, 318–28. The significance of the western exarchates has been investigated by G. Ostrogorsky, "L'exarchat de Ravenne et l'origine des thèmes byzantins," *Corsi di cultura sull' arte ravennate e bizantina*, 1960, fasc. 1 (Ravenna, 1960), 99–110, while R. H. Jenkins, *Byzantium: The Imperial Centuries* (New York, 1966), 23 has been the first (to my knowledge) to stress Heraclius' personal acquaintance with the African arrangements.

<sup>43</sup> Charles Diehl seems to have been the first to appreciate the significance of themal nomenclature: "L'origine du régime des thèmes dans l'empire byzantin," *Études byzantines* (Paris, 1905), 276–92; see also Ostrogorsky, "L'exarchat de Ravenne." Karayannopoulos, *Entstehung*, 76, cites earlier examples of military settlements; for Maurice, see F. Macler, trans., *Histoire d'Héraclius par l'évêque Sébéos*, (Paris, 1904), 54f.

The pressures, as Heraclius might have seen them, would have encouraged him to settle some of his army on the land. He had arrived with a force which he could hardly disband, nor could he have found substitutes given the critical manpower shortage. To have maintained a large standing army in an urban garrison would have been difficult in a time of financial stringency. Such an action would further have exacerbated a supply problem which had cost Maurice his throne, nor had anyone yet found a satisfactory way to accommodate the retired veteran. If the social upheaval under Phocas had indeed liberated properties which thereupon escheated to the state, if their number had subsequently increased thanks to the vengeance Heraclius took upon his predecessor's officials, then the Emperor would have had lands in abundance to assign to the most loyal and trusted of his following. May we call that following the *obsequium* and see in it the founders of the Opsician theme?<sup>44</sup> By endowing some of his force with land after 610, Heraclius could have solved or at least minimized allied problems of finance, supply, and retirement. In the years and generations that followed, military and agricultural settlements would have been at once more necessary and more feasible: more necessary when the definitive loss of Egypt and Syria increased pressures upon local food resources; more feasible when invasions deprived additional estates of their masters.

Neither Heraclius nor his successors sought to create peasant soldiers after the romantic model of a Cincinnatus.<sup>45</sup> A law of Justinian I, insisting that the soldier not engage in agriculture or other distracting pursuits, remained in force under Heraclius. When Justinian II levied troops among the peasant population, it was clearly a move of desperation, and the army proved thoroughly ineffective.<sup>46</sup> The professional nature of the soldier, and the expense entailed in maintaining his professionalism, may be seen in the second "vexation" of Nicephorus I. The indigent villager is to be enrolled in the army, and the other members of his commune are collectively to pay 18.5 *nomismata* for his equipment while assuming the tax payments due from him. Not every small peasant could support the heavy financial burden of a horse and armor, a burden which was to grow more costly in the following centuries.<sup>47</sup>

Aside from utilizing the collective responsibility of the village, the emperors might hope to assure the specialized or professional quality of the army in certain other ways. The *Ecloga* of the eighth century foresees that one member

<sup>44</sup> E. Stein, *Studien zur Geschichte des spätrömischen Reiches* (Stuttgart, 1919), 127, 130ff.; cf. A. Pertusi, ed., Constantine Porphyrogenitus, *De thematibus* (Vatican City, 1952) (= *Studi e testi*, 160), 110; Karayannopoulos, *Entstehung*, 30-32.

<sup>45</sup> On this point, Kaegi, "Some Reconsiderations," 40ff., is certainly correct.

<sup>46</sup> Justinian's law: W. Ashburner, "The Byzantine Mutiny Act," *Journal of Hellenic Studies*, 46 (1926), 80f., and commentary by P. Lemerle, "Esquisse pour une histoire agraire de Byzance," *Revue historique*, 219 (1958), 71; Justinian II's army: Theophanes, ed. de Boor, 377, and Lemerle, *op. cit.*, 72.

<sup>47</sup> Theophanes, ed. de Boor, 486, cf. Lemerle, "Esquisse," 72f. A comparison with a nearly contemporary (808) capitulary of Charlemagne shows that, while both Byzantium and Catholic Europe utilized the principle of collective responsibility, their methods of implementing such responsibility differed profoundly. In the western document we can already see the effect of the benefice and private lordship while wealth is described in terms of holdings of *mansi* and there is no question of cash equivalents for military equipment: *Capitularia regum Francorum*, ed. A. Boretius, Monumenta Germaniae Historica, Leges, 2, vol. I (1883), no. 50, art. 1, p. 137.

of the family will fight while the others maintain the family estate.<sup>48</sup> Thus, when Luke the Stylite marched off reluctantly to fulfill his military obligations, his father (a man skilled in agriculture) remained on the estate. As the same source suggests, the soldier possessing land must often have been of sufficient wealth to employ stewards in whose hands the actual conduct of operations probably lay.<sup>49</sup>

To summarize, in the course of the formative period a variety of pressures fostered the development of a society whose Christian aspects may already be seen under Justinian and indeed before him. Taught by harsh necessity, the Christian community learned about the barbarian and welcomed him as peasant or fighter, as a full member of society if he would accept baptism.<sup>50</sup> This attitude, too, had its precedents in the age of Justinian as did the practices that were blended together, or articulated, to produce a society of markedly military and rural character. Articulation was complete by the end of the formative period in the early eighth century, and—in the present writer's view—the age of Heraclius constituted a decisive phase or turning point therein. The governing theory of that society ultimately denied any possibility of fruitful change, but increasing mobility of capital transformed the countryside and thereby Byzantium's comfortable view of itself as a fragment of eternity.

For purposes of brevity and clarity, rural transformation may be discussed not chronologically but categorically in terms of means, opportunities and motives, and —finally—consequences. First, for the means. The technological base of seventh-century Byzantine society was rather better than historians of agriculture have assumed. Scythes, which appeared only in the late Roman period, have already become a common piece of equipment in the Byzantine village of the *Farmer's Law*. The villagers may even have been in advance of their western contemporaries during the seventh century in that they commonly possessed iron tools, if in limited quantity. The theft of a tool cost the thief the sum of twelve *folleis*, the exact equivalent of the laborer's daily wage. Apparently the individual peasant had only one implement of a given kind. If he lost it, he did not work.<sup>51</sup>

<sup>48</sup> *Ecloga*, XVI.2 (ed. J. and P. Zepos, *Jus Graecoromanum*, II [Athens, 1931], 50).

<sup>49</sup> *Vita S. Lucae stylitae*, 5, 6 (ed. H. Delehaye in *Les saints stylites* [Brussels, 1923], 200f.).

<sup>50</sup> Both curiosity and knowledge about the barbarian may already be found in the *Strategikon* of Maurice: e.g., XI.3, and XI.5 on the Avars and the agricultural activities of the Slavs (ed. J. Scheffer [Uppsala, 1664], 261–63). On baptism, already adopted as a policy under Justinian, see my "Barbarians in Justinian's Armies," 300; to the references indicated, add R. Guiland, "Collation et perte des titres nobiliaires," *Revue des études byzantines*, 4 (1946), 24ff., esp. 38ff., on the necessity of baptism for the achievement of noble status.

<sup>51</sup> Theft of iron tools including scythes: *Nomos georgikos*, 22, 40, 62 (ed. W. Ashburner, *Journal of Hellenic Studies*, 30 [1910], 100, 103, 105). On scythes: E. M. Jope, "Agricultural Implements," in C. Singer et al., *A History of Technology*, II (Oxford, 1956), 95f. Daily wages of laborers derived from hagiographical and papyrological sources, in G. Ostrogorsky, "Löhne und Preise in Byzanz," *BZ*, 32 (1932), 297f. An iron axe used to cut a sapling is documented in the Life of St. Paul the Younger: *Analecta Bollandiana*, 11 (1892), 141f. If the *Nomos georgikos* does in fact reflect practice of the late sixth and seventh centuries, then the use of iron, however limited, was in advance of the West: L. White *Medieval Technology and Social Change* (Oxford, 1962), 40f., and G. Duby, *L'économie rurale et la vie des campagnes dans l'Occident médiéval* (Paris, 1962), 71–79, esp. 77f. On the *Nomos georgikos* in general, J. Karayannopoulos, "Entstehung und Bedeutung des Nomos Georgikos," *BZ*, 51 (1958), 357–73, and G. Ostrogorsky, *Geschichte des byzantinischen Staates*, 3rd ed. (Munich, 1963), 75, note 10, with additional bibliography.

Similar conclusions may be drawn from the life of St. Theodore of Sykeon, nearly contemporary with the *Farmer's Law*. The villagers of Mossyna took their iron objects to the village smith that he might fashion from them an iron cage for the Saint to inhabit, and thereby sanctify, during the winter. When it became manifest that Theodore would leave Mossyna and return to his native village, taking the iron cage with him, the folk of Mossyna constructed yet another cage of wood. This the Saint agreed to use and then leave to the villagers. Even a saint, it seems, was worth only one iron implement.<sup>52</sup>

The wealthier man in the village of the *Farmer's Law* might construct a water mill, and the mill is later to become an essential item of equipment on any proper Byzantine estate: on those of the monasteries at Athos, for example, or of Eustathius Boilas in the Iberian theme, as well as the possessions of a family consortium registered in the cadaster of Thebes. Pacurianus endowed his monastery with both water and animal-powered mills, both of which may have been used for industrial purposes.<sup>53</sup>

The ox remained the work animal *par excellence* although, as one might expect in Anatolia where the mule had first been bred, the latter joined it. Mules were used on the Bithynian estates of Theodore the Studite; in Thessalonica the mule was employed for lighter work after the ox had broken up the clods in land long unworked or unused. The mule may not be as swift as the horse, but it enjoys one great advantage: it is not necessary to shoe it.<sup>54</sup>

In respect to diet, too, the early Byzantine village may have enjoyed advantages lacking among its western counterparts. The *Farmer's Law* punishes the man who enters his neighbor's furrow and injures either his grain or his beans. Beans and grain seem here to be on a level of parity; both are apparently field crops as they certainly are on the eleventh-century estate of Andronikos Dukas. It is worth noting, further, that St. Theodore of Sykeon gave up beans and bread when fasting and substituted for them apples and vegetables. If these examples are at all representative, the diet of the early Byzantine villager surpassed that of his western contemporary in variety and protein content. Foodstuffs, along with iron agricultural implements, are perhaps to be ranked with those more obvious initial superiorities (of institutions and methods of implementing public control) enjoyed by the eastern regions of the Roman Empire.<sup>55</sup>

<sup>52</sup> *Vita Theodori Syceotae*, 27 (ed. Theoph. Ioannou, Μνημεία ἀγιολογικά [Venice, 1884], 386).

<sup>53</sup> On water mills: White, *Medieval Technology*, 80–85; R. J. Forbes, "Power," in Singer, *A History of Technology*, vol. II, 593–601; in the *Nomos georgikos*, 81, 82 (ed. Ashburner, 107f.); N. G. Svoronos, "Recherches sur le cadastre byzantin et la fiscalité aux XIe et XIIe siècles: Le cadastre de Thèbes," *Bulletin de correspondance hellénique*, 83 (1959), 38ff. Pacurianus, *Typikon*, ed. L. Petit, in *Supplement to Vizantijskij Vremennik*, 11 (1904), 13, line 27ff.; S. Vryonis, Jr., "The Will of a Provincial Magnate, Eustathius Boilas (1059)," *DOP*, 11 (1957), 265f.; Athos: in addition to the materials cited *infra*, note 58, see G. Rouillard and P. Collomp, *Actes de Lavra*, I, Archives de l'Athos, 1 (Paris, 1937), nos. 16 (A.D. 1008) and 17 (A.D. 1013).

<sup>54</sup> "Grain Supply," 128f.

<sup>55</sup> *Nomos georgikos*, 60 (ed. Ashburner, 105): "Let those who in harvest time come into another man's furrow (ἐν ἀλλοτρίᾳ αὐλάκι) and cut bundles or ears of grain or pulse (δέματα ἢ στάχους ἢ δσπρία) be whipped and stripped of their shirts." The furrow ordinarily is related to field crops (*ibid.*, 1) and the passage thus points to a cultivation of field-sown legumes in proportions comparable to grain. See also the inventory of the *oikoproasteion* of Baris in the *praktikon* of the domains awarded in 1073 by Michael VII to Andronikos Dukas: F. Miklosich and J. Müller, *Acta et diplomata monasteriorum*



In addition to a thoroughly respectable technological base, the enterprising agriculturalist in Byzantium enjoyed an increasingly abundant labor force. The outsider from Slav to Saracen was eagerly welcomed and, in some instances, even given money for seed and land. Equally important, this was predominantly an amenable labor force, composed of slaves and hired laborers. Both categories are found in the *Farmer's Law*; they inhabit the *proasteia* of the tenth-century Fiscal Treatise; and Romanus Lecapenus, in 934, complains of the hordes of slaves and hired laborers used by the powerful. Slaves were owned by, among others, Plato, the uncle of Theodore the Studite, Danielis, the patron of Basil I, and Eustathius Boilas. Philotheus the Opsician used hired laborers in agricultural improvements which caused his biographer to describe his skill in terms St. Basil would have recognized and approved.<sup>56</sup>

For the skilled tradition had never died, and continuity of informed practice may be considered the third of the means available to the enterprising agriculturalist. During the dark centuries, we know only that saints such as Anastasius the Martyr or Hilarion tended their gardens, but the late eighth as well as the ninth centuries provide examples in abundance of members of the aristocracy who cared well for their estates because they possessed a sound knowledge of what they were about.<sup>57</sup> Plato and Theodore would be included among them as would the parents of Luke the Stylite, St. Luke the Younger, and St. Dorotheus.<sup>58</sup>

Leo, bishop of Thessalonica, in 843 relieved the suffering of his flock by reading the stars and counselling a new time for the planting of crops. Certain sources attribute to him a superstitious interest in doctrines of astral sympathy; others praise him as a man who demonstrated the usefulness of astrological calculation. Before rejecting the tale out of hand, it is well to remember that ancient agricultural treatises had found it difficult to distinguish between the magic of astral sympathy and rational calculation of the seasons by reading the constellations. As a man of iconoclast sympathies, Leo's reputation might

*et ecclesiarum orientis*, III, Acta et diplomata graeca medii aevi, 6 (Vienna, 1890), 4–15, esp. 6, and commentary by G. Rouillard, *La vie rurale dans l'Empire byzantin* (Paris, 1953), 129–33. The fast of St. Theodore: *Vita Theod. Syc.*, 28 (ed. Ioannou, Μνημεῖα, 388). Diet generally is surveyed in my "Grain Supply," 98ff. For comments on protein content and a different view of the Byzantine diet: L. White, "The Vitality of the Tenth Century," *Medievalia et humanistica*, 9 (1955), 27f.

<sup>56</sup> "Grain Supply," 131; *Nomos georgikos*, 25, 33, 34 (ed. Ashburner, 101, 102) for hired herdsmen, and 45–47, 71, 72 (ed. Ashburner, 103–106) for slaves; *proasteia* of the Fiscal Treatise: F. Dölger, *Beiträge*, 115, lines 40–42; the Novel of 934: Coll. III, Nov. V (Zepos, *Jus*, vol. I, 209); Boilas: Vryonis, "Will of a Provincial Magnate," 270f.; Philotheus: PG, 136, col. 156.

<sup>57</sup> *Laudatio S. Anastasii martyris*, 11, in *Analecta Bollandiana*, 76 (1958), 41; *Synaxarion ecclesiae Constantinopolitanae*, in *Propylaeum ad Acta SS. Novembris*, col. 731f, and cf. G. da Costa-Louillet, "Saints de Constantinople aux VIIIe, IXe et Xe siècles," *Byzantion*, 25–27 (1955–1957), 791.

<sup>58</sup> *Laudatio S. Platonis higoumeni*, 11 (PG, 99, col. 813 B); at Boscytium, where trees planted by nature and art made a pleasing prospect, Theodore the Studite cut wood, gathered water, and "cut" the land, whether unworked or under cultivation: *Vita S. Theodori studitae*, vii (PG, 99, cols. 121, 124 A); Ignatius (d. 877) as abbot of Satyros reconstructed the wild area of the Princes' Islands so that it contained churches and habitations for the monks: PG, 105, col. 496 D, and cf. G. da Costa-Louillet, "Saints de Constantinople," *Byzantion*, 24 (1954), 465. St. Luke the Younger (d. 953) labored to irrigate and cultivate a park "pleasing in sight and smell": *Vita S. Lucae iunioris*, PG, 111, col. 464; *Vita S. Lucae stylitae*, 5 (ed. Delehay, 200); in the eleventh century Dorotheus reconditioned a ruined area to build a monastery and a church: *Vita S. Dorothei iunioris, sive in Chiliocomo*, 10, 16 (PG, 120, cols. 1064, 1072).

well have been blackened by orthodox chroniclers eager to suggest that he had crossed the line and taken an interest in the *arcana* of magic. In fact, he may only have been another example of a tradition as old as Synesius and his friend Dioscurus, the bishop intimately concerned with the agricultural activity of the souls subject to him.<sup>59</sup>

Other representatives of the tradition are less ambiguous. Peter of Argos trained boys in the liberal arts and in useful skills to be employed once they had left for field or *proasteion*.<sup>60</sup> St. Clement brought cultivated trees from Greece to graft on the wild varieties in western Bulgaria, a point to be remembered by those who accuse "the Byzantine missionary" of otherworldliness in contrast to the practical agricultural interests of a western Boniface.<sup>61</sup>

But the true hero is Athanasius the Athonite. He found Athos a wilderness and introduced irrigation, water mills, and various crops in the interest (so he avowed) of assuring self-sufficiency. His success was great, and his reputation grew. He was given a monastery that had suffered from invasion and neglect because, so the grant reads, experience suggested Athanasius was just the man to improve it.<sup>62</sup> We are, in short, quite far from the Rome of the second century where Columella complained that neither was agriculture practiced by the aristocracy nor was the skill taught.

The Byzantine agriculturalist had both opportunity and motive to employ his skills. The ratio of man to land seems never to have been high, and masterless or abandoned tracts were generally available to the improver: to the wealthier peasants of the *Farmer's Law*, to the neighbors of Philaretus the Merciful, to the founders of *agridia* or *proasteia* mentioned in the Fiscal Treatise, to the Leobachos clan of the cadaster of Thebes, to Eustathius Boilas or Christodoulos of Patmos.<sup>63</sup>

<sup>59</sup> Sources: Theophanes Continuatus, *De Michaele*, 28 (Bonn, 191); Cedrenus, Bonn, vol. II, 170; Glykas, Bonn, 541; *Catalogus codicum astrologorum Graecorum*, V, pt. 1 (Brussels, 1904), 116; for the secondary literature, see the study of C. Mango, "The Legend of Leo the Wise," *Zbornik Radova*, 6 (1960), 59–93. While Theophanes Continuatus attributes a belief in astral sympathy to Leo, the later sources are equivocal and seem to indicate astronomical calculations. Observations on magic and astral calculation in Columella, *Res rustica*, XI. 1.30–32 (ed. E. S. Forster and E. Heffner, Loeb, vol. III, 66–68); Pliny, *HN*, XVIII. (56). 201–06 (ed. Mayhoff, 199f.), and *Geoponica*, I.9.1. On relations between astronomy and astrology, see O. Neugebauer, *The Exact Sciences in Antiquity*, 2nd ed., (Providence, R. I., 1957), 171, and Sarton, *History of Science*, vol. I, 453f., and vol. II, 64–169.

<sup>60</sup> *Vita Petri episcopus Argivorum*, 12 (ed. A. Mai, *Nova patrum bibliotheca*, IX, pt. 3 [Rome, 1888], 8).

<sup>61</sup> *Vita S. Clementis Bulgarorum archiepiscopus*, PG, 126, col. 1232. See R. E. Sullivan, "Early Medieval Missionary Activity: A Comparative Study of Eastern and Western Methods," *Church History*, 23 (1954), 17–35, esp. 19, 31.

<sup>62</sup> At the time of Athanasius' first visit in the tenth century, the mountain is supposed to have manifested no agricultural activity of any significance: *Vita Athanasii Athonitae*, in *Analecta Bollandiana*, 25 (1906), 23; he obtained water for the monastery and its mills, 35f.; and for the nature and extent of the subsequent improvements, see 49. While he himself sought to assure self-sufficiency, there were many on the mountain who sought to improve fields and vineyards in the hope of a profitable resale: Typikon of Athanasius, ed. Ph. Meyer, in *Die Haupturkunden für die Geschichte der Athosklöster* (Leipzig, 1894), 106. Cession of lands for improvement: Rouillard and Collomp, *Actes de Lavra*, nos. 8, 10 (p. 22, lines 13–23, 30, and p. 28, line 3).

<sup>63</sup> *Nomos georgikos*, 11, 12, 14, 18, 19 (ed. Ashburner, 99f.); *Vita S. Philareti*, ed. and trans. M.-H. Fourmy and H. Leroy, in *Byzantion*, 9 (1934), 115–17; Dölger, *Beiträge*, 115f.; Svoronos, "Le cadastre de Thèbes," 12–14, 41ff.; Vryonis, "Will of a Provincial Magnate," 265f.; Miklosich and Müller, *Acta et diplomata graeca*, vol. VI, 56f. (Christodoulos); cf. D. A. Xanatalos, *Beiträge zur Wirtschafts- und Sozialgeschichte Makedoniens* (Speyer, 1937), 29.

There was a frontier to be conquered, and there were men with motives to do so. In view of the loss of Egyptian grain resources as well as other products from northern Syria, the subsistence motive probably predominated during the seventh century, yet the profit motive is manifest at an early date. John of Damascus, in the eighth century, complains of those ecclesiastics who think only of selling the products of their vineyards and fields.<sup>64</sup> After the rebirth of urban markets in the tenth century, as it may be witnessed at Thessalonica, the second motive predominated. Basil II condemned those who established new markets and lured the merchants to them; one obviously would not have sought the custom of the merchant had he not hoped to profit thereby.<sup>65</sup> A letter from Leo of Synnada to Basil II provides further evidence of the dimensions achieved by internal Byzantine trade. In the Anatolikon theme, near the border of the Thracesian, neither olives, wheat, nor wine were produced. Barley was the only form of cereal, and the sick or well-to-do imported other food-stuffs from the Thracesian theme to the west, from Attalia, or from Constantinople itself. It is doubtful that the state could ever have controlled such far-ranging provincial trade and indeed questionable that its officials even attempted the careful supervision described in the *Book of the Prefect* for the city of Constantinople itself.<sup>66</sup>

Romanus I, in his edict of 934, notes the vitality of land transfers, proving thereby that more was at stake in the social crisis than the sheer rapacity of the powerful. Land might sometimes be purchased at a fair price, even at a profit to the vendor. The purchaser might then improve it with water mills and vines; for this, there should be just recompense, a provision which Basil later revoked.<sup>67</sup> Michael Psellus, among others, had an eye for the profits to be derived from land development. He decided to keep an unproductive plot in the belief that, by adding something from his adjoining properties, he could improve and cultivate the fallow land.<sup>68</sup>

<sup>64</sup> PG, 95, cols. 329–31, cited by Evert-Kappesowa, in *Proceedings XIIIth Internat. Congr. Byz. Studies*, 398. See also the seventh-century material collected by R. S. Lopez, "The Role of Trade in the Economic Readjustment of Byzantium in the Seventh Century," *DOP*, 13 (1959), 67–85. Professor Lopez' hypothesis of a movement toward free trade after the cessation of annona shipments from Egypt is confirmed by certain miracles attributed to St. Nicholas Sionites (d. 564). In the older versions, the Saint relieves a local famine in Lycia by persuading *navicularii* from Alexandria to leave in the stricken area some of the fiscal grain bound for Constantinople. In later versions he purchases grain from merchant vessels, according to some texts, from ships bound out of Cyprus: G. Anrich, *Hagios Nikolaos*, I (Leipzig-Berlin, 1913), 132f., 160f., and noted by E. Eickhoff, *Seekrieg und Seepolitik* (Berlin, 1966), 41, 49. Cyprus was a recognized transit point in exchanges between Syria and Constantinople in the time of the Umayyads. See M. Canard, "Les relations politiques et sociales entre Byzance et les Arabes," *DOP*, 18 (1964), 49f., citing Masudi, *Les Prairies d'or*, ed. and trans. C. Barbier de Meynard and Pavet de Courteilles, VII (Paris, 1873), 75–88, esp. 77. In my "Grain Supply," 19f., I may have underestimated the significance of the Syrian supply.

<sup>65</sup> On Thessalonica, see "Grain Supply," 121f. Basil's law: Coll. III, Nov. XXIX (Zepos, *Jus*, vol. I, 271); see the commentary by Dölger, "Frühbyzantinische Stadt," *Παρασπορά*, 135.

<sup>66</sup> J. Darrouzès, *Epistoliers byzantins du Xe siècle* (Paris, 1960), *Epist.* 43, p. 198f. See also L. Robert, "Sur des lettres d'un métropolitain de Phrygie," *Journal des Savants*, July-Dec. 1961, 97–166; Jan.-June 1962, 1–74. *Book of the Prefect*: see Vryonis, "Byzantine Δημοκρατία," (note 5, *supra*).

<sup>67</sup> Romanus I: Coll. III, Nov. V (Zepos, *Jus*, vol. I, 210); improvements were also visualized in two laws of Constantine VII: Coll. III, Novv. VI, VIII (*ibid.*, 216, 224); Basil II's law: Coll. III, Nov. XXIX (*ibid.*, 265f.).

<sup>68</sup> Psellus, *Epist.* 89, ed. E. Kurtz and F. Drexler, in *Scripta minora*, II (Milan, 1941), 118.

Once again, the best examples are to be found on Mount Athos. In order to consolidate and rationalize their exploitations, the monks buy and exchange property. They take up wasteland to improve it with a mill or to provide adequate fallow when linked with adjoining property. Contrary to Athanasius' precepts, some improve land to give it a pleasant appearance, hoping thereby to redeem the investment. The *Typikon* of 971 condemns those monks who hold improved land, sell it to purchase other parcels, sell the new acquisitions, and then buy again.<sup>69</sup> This is sheer speculation, and it is not surprising that the settlement in the eleventh century was found to resemble a market place, with specialized dairy farming and ships to carry agricultural products to Thessalonica or even Constantinople.<sup>70</sup>

Land, in short, was a capital investment designed to produce returns, a point insufficiently emphasized in studies of the tenth-century social crisis. The original source of the invested wealth may often have been uneconomic, founded as it was in the spoils of war amassed over generations by the great provincial families or in the profits of office exacted by the bureaucrat. Very often, too, land could be obtained by exerting social or administrative pressure or even by outright rapacity; once obtained, however, the capital in hand did not wither away nor was it always wasted in conspicuous consumption such as the costly buildings condemned by Nicephorus II.<sup>71</sup>

Unfortunately (and here we arrive at the consequences), not every man could afford to invest and take advantage of the growing market. Profits attended those who could emulate Eustathius Boilas and the monks of Athos in reconditioning wastelands and, adopting the advice of Cecaumenus, endow them with *autourgia* including mills, trees, and vineyards. Most could not afford the necessary purchased or hired labor force, nor could they join productive to unproductive properties and, like Psellus, wait until the latter became fertile. Many could not even survive a crisis. Romanus I found it necessary to protect

<sup>69</sup> See *supra*, note 63. According to the *Typikon* of John Tzimiscēs (971 or 972), the abbot may not accumulate property by joining his fields to a monastery or to existing improved land: Meyer, *Haupturkunden*, 145, lines 1–17; resale condemned: *ibid.*, 146, lines 16–22.

<sup>70</sup> So the report of Cosmas embodied in the *Typikon* of Constantine Monomachus (1045): Meyer, *Haupturkunden*, esp. 154, line 32, 155, line 1, 156, line 12ff., 158, lines 20–25, 159, lines 20–25. Since the monks pleaded that they had to sell surplus products, they were permitted boats to voyage to Thessalonica (*ibid.*, 155, lines 19–25); cows could be kept at twelve miles distance from the monastery (*ibid.*, 157, lines 1–8). Further exchanges and grants to consolidate and provide adequate fallow for adjoining properties: Rouillard and Collomp, *Actes de Lavra*, nos. 20 (1018), 16 (1008), 52 (1108), 56 (1154). Compare the activities of the monks of Sicily, Calabria, and Lucania: A. Guillou, "Greco d'Italie du Sud et de Sicile au Moyen Age," *Mélanges d'archéologie et d'histoire, École française de Rome*, 75 (1963), 79–110. See also the reconditioning of Patmos by Christodoulos in the twelfth century: Miklosich and Müller, *Acta et diplomata graeca*, vol. VI, 56, lines 24–57, 64, lines 11–16.

<sup>71</sup> The rise of the great families is traced in Vryonis, "Byzantium: The Social Basis of Decline," 157ff.; for an example of profitable military expansion, see the exploits of John Curcuas in Theophanes Continuatus, *De Romano Lecapeno*, 41 (Bonn, 427), a reference for which I am indebted to Mr. James Howard-Johnston. A. Dain, "Le partage du butin de guerre d'après les traités juridiques et militaires," *Actes du VIe Congrès international des Études Byzantines*, I (Paris, 1950), 347–54, needs to be supplemented by materials drawn from accounts of practice. The methods of the powerful need no further exposition here: see the novel of Romanus I (934): Coll. III, Nov. V (Zepos, vol. I, 209f.), and—for specific instances—G. Ostrogorsky, "The Peasant's Pre-emption Right," *Journal of Roman Studies*, 37 (1947), 117–26. Costly buildings are condemned by Nicephorus II in Coll. III, Nov. XXI (Zepos, *Jus*, vol. I, 255).

the "feeble" after the Bulgar invasion of 922, the bad winter of 928, and the famine of 929–30. As Basil II recognized, once the peasant fell behind, it was all but impossible for him to recover.<sup>72</sup>

Romanus, and others in his wake, could hardly have legislated to any other end. The growth of large-scale enterprises, together with the fluid capital which they represented, challenged those very features which had assured the survival of Byzantine society in earlier centuries: its peasant, military, and Christian qualities. How the large estate threatened the integrity of the commune, and therewith the financial services of the peasantry and the military services of the soldiery, are matters which need no lengthy exposition.<sup>73</sup> They were briefly summarized by Romanus: "the settlement of the many offers great advantage for service, for the common payment of taxes, and for the common performance of military obligations, which will collapse if the multitude fails."<sup>74</sup>

The same edict, using violent and almost apocalyptic language, describes the fashion in which fluid capital seemed to menace the Christian social order. The economic aspects of that order had already found clear expression in the preface to the *Book of the Prefect*:

God, after having created all things and given order and harmony to the universe, with his own finger engraved the Law on the tables and published it openly so that men, being well directed thereby, should not shamelessly trample upon one another, and the stronger should not do violence to the weaker, but that all things should be apportioned in just measure. Therefore, it has seemed good for Our Serenity also to lay down the following ordinances...in order that the human race be governed fittingly and no person may injure his fellow.<sup>75</sup>

With these sentences in mind, listen to the prologue of the edict of 934:

To fashion the soul's order in imitation of the Creator is zealously sought by those men among whom the work of the creating Hand is deemed and acclaimed great and august. For those, in contrast, who have accounted this work neither great nor blessed, the principle of Judgment exists for denial together with Creation. For those who experience the whole of existence on earth, and choose to live solely on earth, there remains the display of their own inclination. From this comes the great confusion of affairs, from this the vast flood of injustice, from this the great and profound misery of the feeble—and the groans of the poor as well, for whose sake Our Lord arose from the dead: 'For the sake of the misery of the humble and the groans of the poor, now will I arise, says the Lord.' If God,

<sup>72</sup> Jenkins, *Imperial Centuries*, 248f.; Basil II: Coll. III, Nov. XXIX (Zepos, *Jus*, vol. I, 267).

<sup>73</sup> The decline has been traced by Lemerle, "Esquisse," 254–84 and G. Ostrogorsky, "La commune rurale byzantine," *Byzantion*, 32 (1962), 139–66. There are striking parallels to the disintegration of the Byzantine commune in the reorganization of *muchaa* land as it has been traced in northern Syria by a study of villages existing contemporaneously but at varying stages of development. See J. Weulersse, *Les paysans de Syrie et du Proche-Orient* (Paris, 1946), 99–113.

<sup>74</sup> Romanus I (934): Coll. III, Nov. V (Zepos, *Jus*, vol. I, 209, lines 23–26).

<sup>75</sup> The English translation is that of A. E. R. Boak, *Journal of Economic and Business History*, 1 (1929), 600.

our maker, redeemer, and king rose up in vengeance, how then shall it be overlooked by us or forgotten in the end?

For does not the poor man look only to the eyes of the emperor for solace? Hence, for justification of these we have promulgated the present law, not only after having examined matters lately accomplished, as well as those of long duration, but also applying a general and permanent cure to the matter. Having considered it advantageous, we have prepared it, as it were, to cleanse and banish greedy purpose so that no one at all shall be deprived of his own possessions, that the poor man be not oppressed, as something beneficial to the common good, acceptable to God, profitable to the treasury, and useful to the state. . . . But since evil is shifty and multiform, and all—not least greed, indeed rather more—contrive to elude the reach of laws and decrees and count as naught the searching eye of divine justice, these things therefor merit safer and more careful codification, casting aside and cutting off the contrivances of the evildoers' purpose.<sup>76</sup>

Among the many provisions of the edict, one in particular embodies the spirit of the prologue. Some there are, states Romanus, who have risen from a lower fortune to a higher by divine providence or by means beyond comprehension. The Emperor finds it equitable that they remain in the inheritance and condition which they originally enjoyed and not, "while extending the measure of their own fortune, complete plundering their less fortunate neighbors."<sup>77</sup> Essentially, Romanus Lecapenus views a society of nascent agricultural capitalism with a pre-capitalistic eye. If one man rises, he must have done so at the expense of another.

Given the circumstances of his society, he was not entirely wrong, nor was he alone in his belief. Nicephorus Phocas, who wished that his dead soldiers be considered martyrs, ordered that the powerful sell property only to the powerful; the poor only to the poor.<sup>78</sup> Had his law been successfully enforced, it would have ended the mobility of capital throughout society and, therewith, the opportunity for an enterprising individual to move from the bottom to the top. Basil II took action in just such a case, ordering the upstart Philocales deprived of the lands which the power and profit of office had won for him and put back into the village commune whence he had risen.<sup>79</sup> So the emperors strove to maintain the immutable social order, but if (as is usually true) the repetition of a law only measures its ill-success, then their best efforts failed of their purpose.

To summarize, the foregoing study of the relation between men and land has shown that the agricultural tradition is almost a paradigm of Byzantine civilization. Rooted in the Hellenistic world, it survived in good order the

<sup>76</sup> Coll. III, Nov. V (Zepos, *Jus*, vol. I, 207, line 10–208, line 9). An English translation of the entire edict has been prepared by C. M. Brand, *Icon and Minaret* (Englewood Cliffs, N. J., 1969), 81–88.

<sup>77</sup> Coll. III, Nov. V (Zepos, *Jus*, vol. I, 211, line 8f.); Brand, *op. cit.*, 85.

<sup>78</sup> Coll. III, Nov. XX (Zepos, *Jus*, vol. I, 254, lines 15–18).

<sup>79</sup> Coll. III, Nov. XXIX (Zepos, *Jus*, vol. I, 265, line 6ff.).

anarchy of the third century after Christ. Embodied in agricultural treatises written in the Greek tongue, it seems to change little after the sixth century in its learned or theoretical aspects. Yet it would be a profound error to deduce stagnation or retrogression in practice from immutability in theory. New technologies developed during the seventh century from late Roman experiments. With the use of an abundant and more amenable labor force, and under the dictate of necessity, old traditions were put to more effective use in those very regions where centuries of experiment and adaptation had created them.

The success of Byzantine agriculture paradoxically proved the undoing of the society it supported. That society was an articulated whole, composed of Christian qualities, military endeavor, and rural expansion. The on-going quality of the latter, the constant transformation of the rural scene, called for a redefinition or readjustment of the other components. At the moment when it had become inescapably necessary to take such measures, Byzantium labored to support an extensive empire and to absorb newly conquered peoples. It lost its greatest Emperor in 1025, and it had to struggle against potent enemies, under leaders lacking in Basil's grim dedication and single-minded capacity. Too many crises impinged at once. Whether Byzantium could have surmounted the particular crisis of agricultural capitalism, we shall never know. We do know that it was not a passive or stagnating society that entered the eleventh century to face yet more Asiatic foes from the east as well as a new breed of rival in the west, for whom it developed that venomous hostility often obtaining between peoples who share much: in this instance, the remote foundations of an agricultural tradition.